of the Smithsonian Institution, and other high authorities in the leading departments of learning.

While the institution should be a university in the fullest and widest sense, it should differ from all other universities in one important respect. All universities have their strong chairs, and many rest their reputation on some one leading feature. The leading feature and true reason for being of the national university should be its course of instruction in the science and art of government. This course should differ radically from the usual courses in political economy and political science. These should not be neglected, but in addition to them and of higher range should stand as the basis of university instruction a thorough and exhaustive course in the practical workings of government itself. Viewing government as the great agency for the transaction of the people's business, every department of government business should be fully taught both in its principles and its practice, so that the graduate from the national university should come forth in full possession not only of all that constitutes true statesmanship, but also of the practical details of each of the many great business operations which the government undertakes and carries on.

The administrative offices of the government should be filled as soon as possible from graduates of the university, so that at length the civil service force of the United States should consist exclusively of persons who have had a thorough training in the theory and practice of government.

PRINCIPLES AND METHODS OF GEOLOGIC CORRELATION BY MEANS OF FOSSIL PLANTS.[1]

THE value of paleontology to geology depends primarily upon the principles by which the paleontologist is guided in the application of his data, and accordingly upon the methods he adopts in bringing such data to bear upon the questions which geology presents for solution. This is especially true of paleobotany, and the chief reason why that branch of paleontology has thus far been so little help to geology is that unsound principles or improper methods have been employed in reasoning from paleobotanical data.

Among the leading principles by which the paleobotanist should be guided may be mentioned the following: —

1. It should not be expected that widely separated deposits having similar floras are necessarily identical in age, since the present well-known laws of geographical distribution are likely to have been operative to a greater or less degree in past geologic ages, and the flora of the entire globe has probably never been homogeneous throughout. Different deposits may therefore be homotactically correlated without being contemporaneous, while, on the other hand, those having very different floras may have really been contemporaneous.

2. The great types of vegetation are characteristic of the great epochs in geology. This principle is applicable in comparing deposits of widely different ages where the stratigraphy is indecisive. For example, in rocks that are wholly unknown, even a small fragment of a carboniferous plant proves conclusively that they must be paleozoic, or a single dicotyledonous leaf that they must be as late as the cretaceous.

3. For deposits not thus widely different in age, as, for example, within the same geological series or system, ample material is necessary to fix their position by means of fossil plants. As this is the most common case, it is the neglect of this principle that has led to the greater number of errors and done most to bring paleobotany into disrepute. The geologists have expected too much of paleobotanists, and the latter have done violence to the truth by attempting to satisfy the extravagant demands of the former. On the other hand, where the material is ample fossil plants are as reliable as any other class of paleontologic data.

4. The correct systematic determination of fossil plants concerns biology and does not concern geology. Much of the contempt exhibited in some quarters for paleobotany has arisen from the impression that there is great uncertainty with regard to the true nature of vegetable remains. This uncertainty is greatly exaggerated even by botanists, who are apt to imagine that nothing can be known of a plant without having all its organs and parts before them. But the geologist need not be affected in the least by these discussions, since all that is required from his point of view is that the fossil be definite, constant, and easily recognizable, as is usually the case with plants. Such as possess these qualities and are also characteristic of a given deposit have their full diagnostic value independently of the question whether their true systematic position has been determined or not.

As regards methods in geologic correlation by means of fossil plants, it is chiefly important that the tables of distribution be complete and comprehensive; that is, that they embrace all the forms found elsewhere, and that all the other localities and formations in which they occur be indicated. It is also important when comparing floras as ancient as the Mesozoic, that those species be enumerated which are obviously related to those of the deposit to be determined. In the discussion of such tables of distribution due regard should be had for the fact that the types of earlier floras often pass up into later ones, and when the latter are much more abundant than the former their occurrence argues much more strongly for the earlier than for the latter date — for the Devonian than the Carboniferous, and for the Cretaceous than for the Tertiary. Many serious errors have been committed by ignoring this principle.

[1] Read, by Lester F. Ward, before Section E of the American Association for the Advancement of Science, at Washington, D.C., Aug. 21, 1891; a translation into French was also read in part before the International Congress of Geologists at the same place, Aug. 29, 1891.

NOTES AND NEWS.

THE public meetings of the Nineteenth Century Club, New York, during the coming season, will be held on the following Tuesday evenings, viz., Nov. 17, Dec. 15, Jan. 12, Feb. 16, Mar 15, and Apr. 12. There will be six conversational meetings of the members of the club during the coming season, to be held upon the first Friday evening in each month.

— The following papers were entered to be read at the November meeting of the National Academy of Sciences: Some Aspect of Australian Vegetation, and The Nomenclature of Vegetabl Histology, by G. L. Goodale; On Certain New Methods and Result in Optics, by Charles S. Hastings; An Exhibition of the New Pendulum Apparatus of the United States and Geodetic Survey, with Some Results of its Use, and On the Use of a Free Pendulum as Time Standard, by T. C. Mendenhall; On Degenerate Types o Scapula and Pelvic Arches in the Lacertilia, by E. D. Cope; Th Proteids or Albuminoids of the Oak-Kernel (second paper), b Thomas B. Osborne, introduced by S. W. Johnson; Astronomica Methods of Determining the Curvature of Space, by C. S. Pierce On Geographical Variation among North American Birds, consi ered in relation to the peculiar Intergradation of *Coloptes Auratu* and *C. Cafer*, by J. A. Allen; On the Variation of Latitude, by C. Chandler; The Tertiary Rhynchitidæ of the United States, b Samuel H. Scudder; On a Color System, by O. N. Rood; Preliminary Notice of the Reduction of Rutherford's Photographs, by K. Rees, introduced by E. C. Pickering; On the Application

Spectrum Analysis to the Analysis of the Rare Earths, and a New Method for the Preparation of Pure Yttrium, by H. A. Rowland; A Nomenclator of the Family of Fishes, by Theodore Gill; Measurement of Jupiter's Satellites by Interference, by A. A. Michelson; The Follicle Cells of Salpa, by W. K. Brooks.

— The council of the Appalachian Mountain Club has been informed by Mr. Henry Brooks of West Medford that if $2,000 can be provided for the care of the property, Virginia Wood, situated in Middlesex Fells, on the north side of the Ravine Road, will be given into the keeping of the Trustees of Public Reservations. The council recommends this project to the favorable consideration of the members of the Appalachian Mountain Club, reminding them that this work is in the line of the club's work and that the club called the meeting which resulted in the incorporation of the Trustees of Public Reservations. Offers of large or small subscriptions may be sent to Mr. Henry Brooks, West Medford, or to the recording secretary of the club. The club's Exhibition of Botanical Specimens will be held the second week in December.

— At what elevation is the air of London purest? According to Mr. W. J. Prim, who gave evidence before the Select Committee on House of Commons Ventilation, says the *Pall Mall Gazette*, at about thirty or forty feet from the ground. Lower than that you get the dust, higher than that you get the smoke from the chimneys. Mr. Prim made certain experiments with frames of wood covered with blanketing material put at different elevations — one on the top of the clock-tower at Westminster, another on the highest point of the roof, and others at various heights down to the court-yard. After five-hours' exposure there were found to be more smuts at high elevations than at the low, but on the level of the courtyard there were considerable quantities of dust. On the whole, Mr. Prim came to the conclusion that the purest level was between thirty and forty feet, and that nothing was gained by going higher, unless you went very high indeed — say, some 400 or 500 feet. All this is rather fatal to the common notion that the highest stories of the tallest blocks of flats are especially desirable for their salubrious air.

— "If any evidence of the fury of the equinoctial storms that have lately raged in the Atlantic were needed, in addition to the lengthening list of 'Disasters at Sea' which has appeared daily during the past three weeks," says the *London Spectator*, Oct. 31, "we might find it in the number of ocean-birds which have been driven from distant seas, and even from other continents, or the New World itself, and have drifted to the rain-soaked fields of England. No doubt all shore-birds are liable to be driven inland during a gale; but these are rarely, if ever, lost in a storm. Every sea-gull and cormorant, puffin, or razor-bill, has its own home, the particular shelf or ledge of cliff on which it sleeps every night, and from which it launches itself over the sea when the first streak of dawn appears upon the waters. But these are only 'long-shore' birds that can lie snug in harbor, like their rivals the fishermen, and suffer, like them, mainly from the interruption of their fishing. When the true ocean birds, like the petrels, are found scattered inland, dead or dying, as has been the case during the past month, we may safely infer that the weather from side to side of the Atlantic has borne hardly, not only on the ships, but on the friendly birds that love to follow them. Numbers of these, of at least two different kinds, one of which, as a rule, makes the Azores the eastern limit of its ocean range, have appeared on our coasts or inland during the gales. Wilson's petrel has been seen in Ireland, in County Down, and a second is said to have been shot on Lough Erne. The fork-tailed petrel, another ocean species, has lately appeared here in far greater numbers. These birds have been seen in Donegal, and in Argyllshire, in Westmoreland, and in the Cleveland district in Yorkshire. As the last appeared after a strong north-western gale, it seems that it must not only have come in from the Atlantic, but have flown over England before falling exhausted to the ground. They have also been seen in Tipperary, at Limerick, Dumfries, and Northampton. From an account given of these petrels in Argyllshire, it is clear that they retained after their long journey all that misplaced confidence in man which marks their behavior when accompanying ships in mid-ocean. After five had been shot by the owner of a yacht in Loch Melfort, they settled on the vessel, and one allowed itself to be caught under the sou'wester hat of a sailor."

— During the nine years and six months preceding December, 1884, there had occurred in Japan, according to statements published in the *Illustrated American* five hundred and fifty-three earthquakes, averaging one earthquake for every six days and six hours. Professor Milne was able to make the average even greater than this. He could trace an average of an earthquake per day in Nagasaki, in the extreme south of the Japanese Archipelago. Probably the official statistics were compiled from the returns of officials from all over the country, in which case only those shocks which caused loss of life or damage to property would be included. If this hypothesis be correct, we should have an average of more than one earthquake per week, which was so violent that it caused injuries to life or property sufficiently serious to attract the attention of the local authorities, and, in their judgment, to require a report to the central government. Earthquakes being so common, people scarcely notice them unless they be extraordinarily severe ones. For instance, Miss Bird, in her "Unbeaten Tracks," thus summarily dismisses two: "While we were crossing the court there were two shocks of earthquake; all the golden wind-bells which fringe the roofs rang softly, and a number of priests ran into the temple and beat various kinds of drums for the space of half an hour." As every one knows, Japan is the very hearth of earthquakes; in 1854 more than sixty thousand people lost their lives in consequence of one of these great terrestrial catastrophes, and it has been calculated that from ten to twelve earthquakes, each lasting several seconds, occur every year, besides numerous others of too light a nature to be worthy of remark.

— The subject of the use of the flesh of animals killed by poison has been studied by Schmidt-Mulheim with a view to determine whether, if eaten by men, such flesh would be injurious. As reported in the *Revista Internazionale d'Igiene* of Naples, for June, 1891, it may be used without any danger whatever. Many savage races constantly use the flesh of the animals that have been killed with poisoned weapons and have never been injured by that means. Harms has proved (*Univ. Med. Mag.*) that the flesh of animals that have been poisoned with nux vomica and with tartarized antimony is not at all hurtful; Feser has demonstrated the same fact in regard to strychnine and eserine; Spallanzani, Zappi, and Sonnenschein have done the same for arsenic. Froehner and Knudson have made some experiments for this purpose with strychnine and with eserine. They fed dogs with large quantities of mutton poisoned with strychnine and eserine, and they found that no injury whatever was done to the animals. Besides, they themselves ate some of the poisoned meat and drank soup made from it, and found that the flavor was good and had no injurious effects whatever on the system. In regard to the alleged injurious effects caused by the meat of animals poisoned with hellebore, and which had eaten belladonna leaves, the authors have shown that the accounts published in this regard have not been proved and require further tests.

— The experiments in the use of commercial fertilizers on wheat, made at the Ohio Experiment Station, have been criticized on the ground that it is idle to expect any profitable return from fertilizers applied to a soil naturally so rich as that of the farm occupied by the station. This criticism was anticipated when these experiments were instituted, and accordingly a test, duplicating the most important features of the station test, was begun at the same time on a tract of land in Columbiana County, placed at the disposal of the station by its owner for this purpose. The soil on which this test is located has been derived from the decomposition of underlying slate, and is a light colored clay or clay loam, of moderate productiveness, the crops of wheat grown upon it under ordinary farm management having averaged from fifteen to twenty bushels to the acre. It is naturally underdrained by the cleavage of the underlying rocks, but the contour is not so uniform as that of the section devoted to similar tests at the station, and hence the results are less regular. In Bulletin No. 3 of the Ohio Experiment Station for 1891 the results of the experiments for this year on the

station farm are given, the general outcome being that in most cases the use of manure or fertilizers caused an absolute decrease in the product of grain, an immense growth of straw having been produced at the expense of the grain. In summing up the results of this experiment, it was said: "It is expected that this year's results of the duplicate experiment in Columbiana County will show better returns from the use of fertilizers than those of the station test, but it has not been possible to thresh out that experiment in season to publish its results in this bulletin." The wheat was threshed on Oct. 17, and the results show no increase to justify the expenditure on fertilizers.

— At the recent Congress of Tuberculosis, M. Poirier (*British Medical Journal*) read a paper on the surgical treatment of pulmonary cavities. He said the first case on record was accidental. In a duel fought in 1679, the sword of one of the combatants passed through his antagonist's lung and opened a pulmonary cavity. The surgeon utilized the wound for the direct treatment of the cavity, and the patient recovered. In conjunction with M. Jonnesco, M. Poirier has collected all the available statistics, of which the following is a summary. Of twenty-nine cases of incision of tuberculous cavities with resection of ribs, improvement took place in fifteen, cure resulted in four (these cases must, according to M. Poirier, be taken "with every possible reserve"), in nine the result was negative, in one it was unknown. In nineteen of the cases the disease was situated near the apex. M. Poirier, still with the co-operation of M. Jonnesco, has endeavored to simplify the method of operation so as to minimize the amount of traumatism. The following, according to them, is the best way of reaching the upper part of the lung. An incision is made with the thermo-cautery four centimetres below the sterno-costal notch from the middle line of the sternum outwards for nine centimetres in a direction parallel to the first intercostal space; in this way the pectoralis major, which is usually much thinned, is reached, and by enlarging one of the spaces between the fasciculi the plane of the intercostal muscles is reached. This is divided and the pleura exposed. If there are no adhesions it is better to establish them before proceeding further; but if there is a cavity adhesions are always present. It is easy to "strike" the cavity through these adhesions, though a certain thickness of pulmonary tissue has often to be traversed for the purpose. As cavities are generally situated quite in the upper part of the lung, the first intercostal space is at a distinctly lower level than the cavity; the point of the instrument must therefore be carried from below upwards and from before backwards. When the cavity lies towards the back, the spinous process of the seventh cervical vertebra should be sought for; an incision is made outwards from this point towards the scapula; the trapezius and rhomboideus are divided, and the first intercostal space, which is much less wide than it is in front, is reached. Resection of rib may be necessary, but M. Poirier does not advise this. From experiments made on twenty dead bodies, he holds that in front resection of ribs is never called for.

— The Italian Society of the Red Cross has recently been conducting some elaborate experiments to test the working of floating hospitals. In countries where water communication is complete, well equipped hospitals on barges might be of very great service, especially in time of war. The presidents of the Red Cross and Italian Rowing Club, with Captain Olivari of the Italian navy, set themselves to the task, first by forming a floating hospital out of the barges employed on the main water-ways for for the transport of combustibles; then, having got their flotilla in working order, they launched it on the Lago Maggiore (*Lancet*, Sept. 19). Passing thence by canal to Milan, it anchored at the Porta Ticinese, and was there visited by a large number of citizens. It is composed of three barges, two of them fitted up for the accommodation of the wounded, and the third for a pharmacy, a kitchen, and the necessary stores. Of the two hospital barges, one is set apart for wounded officers, the other for wounded soldiers of the line — the two containing twenty-four beds each at present, but capable of including comfortably thirty-six each. These beds are partly on the fracture-board system, partly supported on network of metal, and are all furnished with mattresses and pillows stuffed with *zostera marina* (dried seaweed), which has the twofold advantage of being non-combustible and antiseptic. Every night-requisite is conveniently at hand, and ventilation is secured by an ingenious canvas awning which gives passage to a continuous circulation of air while protecting the patient from draughts. The flotilla is lighted with oil lamps, and the barge reserved for the wounded officers has accommodation at the prow for the *personnel*, superior and inferior. The store barge consists of a dispensary, an *armamentarium chirurgicum*, a provision magazine, with ice-machines, and a spacious kitchen, capable of supplying 250 mouths. There is also a complete system for storing and keeping cool and pure a perennial water-supply — a system due to the Cavaliere Borroni, secretary to the Milanese Committee of the Red Cross. The flotilla is composed of nine barges in all: the three above described having been sent down to Milan for exhibition from the Lago Maggiore, while the remaining six are in dock at Arona, on the southern extremity of the lake. These barges are moved on the lakes by tugs, on the rivers by the current, on the canals by towing horses. From Milan the flotilla proceeded by canal to Pavia, and from Pavia down stream to Piacenza, at every station commanding the highest admiration. The experiment — the first of its kind ever made — is a worthy complement to the mountain ambulance of the Italian Red Cross Association.

— A large number of migratory birds passed over Dublin during the night of May 4 last, on the way to their northern breeding-haunts. An account of the matter is given by Mr. Allan Ellison in a recent number of the *Zoologist*. "While sitting in our rooms in Trinity College, about 11 P.M.," he says, "we were attracted by the loud call-notes of birds passing overhead. The night was calm and cloudy, not very dark. We listened at the open window until about 1 A.M., when they seemed to be still passing over in undiminished numbers. They were mostly golden plovers and dunlins, easily recognized by their notes, but we frequently heard the cry of the whimbrel, or the shrill call of the common sandpiper. It was most curious to hear these notes, at first far away towards the south-west, gradually becoming louder as the flocks drew nearer and passed overhead, and then rapidly passing away to the northward. Sometimes the whole air seemed full of their clear whistling notes; in one direction the loud, short pipe of the golden plover, in another the shrill wheezing cry of the dunlin, reminding one of the sound made by a whistle with a pea in it. Sometimes a bird or two would fly quite close over the house-tops, uttering its loud whistle close to the open window, but they seemed for the most part to fly at a great height."

— The Biological Club of the Ohio State University and Ohio Agricultural Experiment Station met Nov. 3, and elected the following officers to take their places at the next meeting: president, Professor W. A. Kellerman; vice-president, Professor F. M. Webster; secretary, C. M. Werner. The club is in a more flourishing condition and doing better work this fall than ever before. It is composed of over a score of professors and advanced students, mostly specialists Some idea of a part of the work and workers may be gained from the following, which is the programme for this term: Sept. 23, "Notes on Personal Work and Reports on Recent Scientific Literature;" Oct. 7, Professor Kellicott, "On Certain Crustaceous Parasites of Some of Our Fresh-Water Fish;" Oct. 20, Professor Kellerman, "Germination Tests in Connection with the Use of Fungicides on Grain;" Nov. 3, Election of Officers; Annual Address by the President, Professor W. R. Lazenby; Nov. 17, Dr. Orton, "Geological History of the Black Shales of Columbus;" Dec. 1, Professor Webster, "The Relation between the Increase of certain Insects and the Overflow of Rivers;" Dec. 15, Professor Selby, "Ohio Oaks" During the remainder of the year the following subjects will be discussed: "Report of a Biological Survey of Ohio River Waters," by Dr. Bleile; "Methods of Propagation or Multiplication in the Lower Forms of Animal Life," by Professor Kellicott; "Methods of Propagation or Multiplication in the Lower Forms of Vegetable Life," by Professor Kellerman; "Protective Mimicry in Insects," by Professor Webster; "Palæozoic Mollusca, with Stages of Molluscan Development," by H. A. Surface; "The Botanical Order of Violaceæ," by E. E. Bogue;

"Some Observations of Animal Life in my Aquarium," by J. H. McGregor. Other professors and advanced students will deliver addresses or read papers, the subjects of which have not yet been given. Besides the regular paper at each meeting, there are notes on personal work, recent discoveries, investigations, etc., by the various members, and reports on current scientific literature. At the meeting Nov. 3, the president, Professor Lazenby, recommended that immediate action be taken toward the formation of an Ohio State Academy of Science. The suggestion was acted upon at once, and a committee, consisting of Professor W. R. Lezenby, D. S. Kellicott, and W. A. Kellerman, was appointed to make further arrangements in this direction, and to correspond with scientific workers throughout the State with a view of securing their co-operation. Correspondence from all persons interested is earnestly solicited.

— It is reported that the decline in the supply of Bahia piassava still continues, and that the bark is becoming exceedingly scarce, owing to the reckless manner in which the trees are stripped. Bahia piassava, as is well known, is the fibre from the sheathing bases of the leaves of a palm (*Attalea funifera*), and is a most valuable material for the manufacture of bass brooms and brushes. A similar product, obtained from Para, is furnished by another palm, the *Leopoldinia piassava*. In consequence of the scarcity of these two commodities, attention has of late years been directed to other channels for substances that might compete with, or, at any rate, be used as a substitute for true piassava. One has been found in Madagascar, the fibres of which are, however, not sufficiently stiff or elastic to be used by themselves Split cane, dyed brown to resemble piassava, has also been used, more, perhaps, for mixing with the real thing than to be used alone. But the most recent introduction, and one of very considerable importance, is that now known in commerce as African piassava, or Lagos bass. It differs from the other three kinds, inasmuch that, instead of being a fibrous coating or sheathing at the base of the leaves, it is the strong woody fibres of which the petiole, or leaf stalk, are built; and as the palm (*Raphia vinifera*) is now abundant in tropical Africa, the supply is practically inexhaustible. With this consideration, coupled with the fact that the substance continues to arrive in large quantities, and to meet with a very ready sale, it may be taken that African piassava is one of the most important of newly discovered vegetable products.

— The British East Africa Company have determined to make a complete survey of the district between the east coast of Africa and Victoria Nyanza, the vast inland sea. The idea of having a railway to this lake has been discussed for some time, and Sir John Fowler, on being appealed to, gave it as his opinion that a railway was practicable, and need not cost over two millions sterling. This opinion, of course, could only be formed on incomplete information, for while travellers, like Mr. Joseph Thomson, who has just returned from the interior of Africa, Dr. Fischer, and Count Teleki, have afforded information as to the nature of the country to be traversed, little is known about the formidable Mau escarpment and the country lying between that precipice and the lake. A thorough survey is therefore desirable, and the British East Africa Company, with commendable enterprise, have determined to send out a party, the chief of which will be Captain J. R. L MacDonald, with Captain J. W. Pringle as assistant, both being officers of the Royal Engineers. Captain MacDonald is attached to the Indian Public Works Department, and has had much experience of railway surveying in India. The surveying party will leave England in about ten days, says *Engineering* of Oct. 30, and on arrival will separate into two or three sections. One party will proceed along the Sabaki River, and the other will start from Mombasa. Both will meet up the Sabaki and explore both banks. From Machakos the party will separate into three parties. The return will be *via* the Kampéplain, so that eight months will probably be occupied in the work. It is hoped that the result of the survey will be the construction of a railway to the shores of the lake, as by this means it will be possible to open up a very large tract of virgin country for trading purposes. But we do not know that the opinion will be equally unanimous as to the railway being made by the government. The British East Africa Company will profit most largely, and surely they should bear the financial risk, if there be any. In any case the survey must have valuable results, as it will afford definite information of that part of Africa, regarding which so little is known and in which so much interest is taken.

— Positive photographs can be obtained direct from the camera, as announced by J. Waterhouse, in "Eder's Jahrbuch," 1891, 283–287 (abstract in *Zeitsch. Physik. Chemie*, VIII., 567). This remarkable result is secured by adding small quantities (about one-fifth per mille) of a substituted sulpho-urea to the developer. Experiments were made with allyl and phenyl sulpho-urea added to eikonogen. Sulpho-urea itself acts similarly, but without satisfactory results. All these substances are powerful accelerators.

— A very simple method of laying the foundations on a swampy location, which did not furnish a firm subsoil, was employed by an American engineer, according to *Engineering*, for supporting a low wooden building to be used for storage of machinery. Casks were set in holes in the ground along the line of posts and were filled to the depth of about one foot with iron turnings. The posts were set in the casks, which were then filled with iron turnings compactly rammed in place. A solution of salt and water was then slowly poured over these turnings, which compactly solidified into a hard mass. The heat of the oxidation of the iron was so great that the posts smoked and were charred; the latter fact probably being the reason why they have not as yet exhibited any signs of decay; and in this respect the use of iron turnings furnishes an advantage over the use of concrete for cask foundations.

— Perhaps the strangest instance of the forced wanderings of a petrel was that which brought one of the last-known members of an extinct, or at any rate a lost species, the capped petrel, whose only home appears to have been the islands of St. Domingo and Guadaloupe, from the West India seas to a Norfolk heath. In March or April, 1850, according to the *London Spectator*, Oct 31, a bird was seen by a boy on a heath at Southacre, in Norfolk, flapping from one furze-bush to another, until it crept into one, and was there caught by him. Exhausted as it was, it violently bit his hand, and he thereupon killed it. A Mr. Newcome, one of a race of falconers, happened to be hawking in the neighborhood, and his falconer, seeing the boy with the dead bird, brought it to his master, by whom it was skinned and stuffed, and placed in the Newcome collection, where it still remains. It was a large bird, about sixteen inches in length, with long, curved wings characteristic of all the petrels, and a black head, as its name indicates. Only two other instances of the capped petrel's appearance in Europe are known. One was shot near Boulogne, and one in Hungary, in 1870, which is in the museum at Buda-Pesth. Two others have been taken in the United States. But the strangest part of the story is that the capped petrels are now either extinct, or lost to the knowledge of man. "It is certain," says Mr. Stevenson, in his last and unfinished volume of "The Birds of Norfolk," "that the true home of this very rare species is, or was, in the islands of Guadaloupe and Dominica, in the West Indies, where it was formerly very abundant; but one of its old breeding-places in the last-named of these islands was explored, without finding a single bird, in February, 1887, by Colonel Feilden." It appears that ten years before, not only Dominica, but also Guadaloupe, was searched in vain for the "Diablotins," the name by which these petrels were known to the old voyagers. It is believed that they were possibly destroyed by a South American opossum which was introduced to the island; but as the young and even the old birds were constantly caught by the islanders for food in the holes in which they nested, their destruction may be due, like that of the great auk, to human greediness.

— Morgan R. Sanford, formerly of the Kansas Wesleyan University, has been elected professor of science in the school at Wilbraham, Mass.

— Mr. Charles Darwin of the United States Geological Survey has been appointed to investigate the tin mining industry of California, and has already proceeded to the scene of operations.